

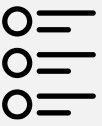


# **Strategy of Polenergia Group**

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**2020 – 2024**

# Agenda



## **1 Market environment**

## **2 Mission and vision**

## **3 Polenergia today**

## **4 Directions of strategic development**

## **5 Summary**



1

# Market environment: Global trends

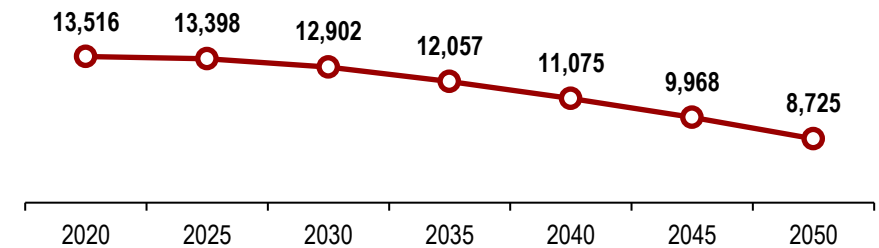
We observe 3 major trends that will impact energy markets in the future

1



Fight against climate change

Forecasted global power sector CO<sub>2</sub> emissions (MtCO<sub>2</sub>)\*

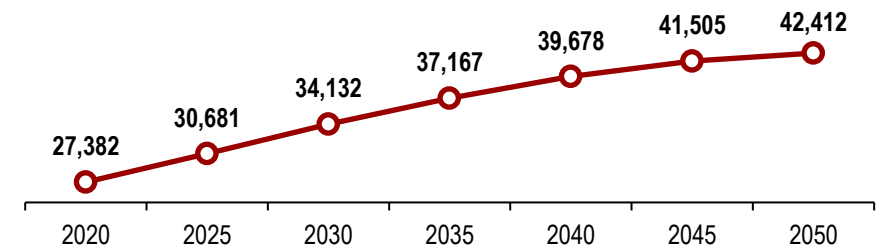


2



Increase in electricity demand

Forecasted global electricity demand (TWh)\*

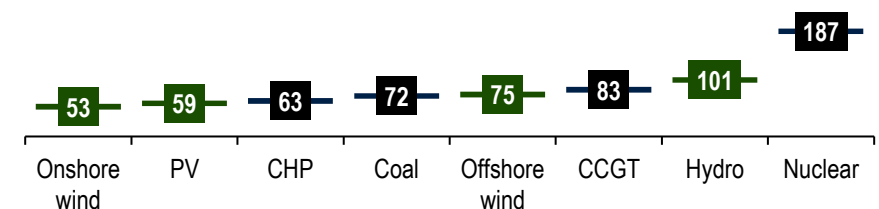


3



Increase in RES competitiveness

LCOE per technology (USD / MWh)\*



# Market environment: EU market

We fully support European Union's goal to play a leading role in the energy market transition process



Because the **European Union** understands the need of joint efforts in fighting against climate change and...



... is affected by scarcity of natural energy sources...



...**the EU** has set forth very ambitious RES targets for the coming years

	2018		2020		2030		2050
Total energy consumption	18.9%	»»	20.0%	»»	32.0%	»»	
Electricity consumption	32.1%	»»	31.0%	»»	49.0%*	»»	
CO <sub>2</sub> emissions reduction	23.0%	»»	20.0%	»»	40.0%	»»	
Increase in energy efficiency	16-17%	»»	20.0%	»»	32.5%	»»	

Climate  
neutrality



# Market environment: Polish market transition

We believe that Poland will not only adhere to the EU standards, but also accelerate the pace of the energy transition in Central Europe

1 Gradual and systematic **departure from coal-fired** sources



2 Continued support for **RES** investments



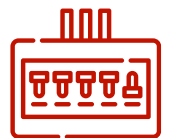
3 **Gas as a transition** fuel used to ensure **flexibility** required in the energy system **with hydrogen being the target fuel**



4 Transport electrification (**e-mobility**)









5 **Change of the energy market architecture** (decentralized energy systems, market integration services, consumer oriented)



# Market environment: Polish market development

**We expect the dependency on fossil fuels to decrease, from current level of 80% of capacity installed in coal and gas to about 35% until 2035**

	2018		2035*
 <b>Total Capacity</b>	44.3 GW	+ 30.3 GW	74.6 GW
 <b>Conventional</b>	35.7 GW	- 9.3 GW	26.4 GW
 <b>Renewables</b>	8.6 GW	+ 26.9 GW	35.5 GW
 <b>Onshore wind</b>	5.9 GW	+ 10.2 GW	16.1 GW
 <b>Offshore wind</b>	0.0 GW	+ 8.5 GW	8.5 GW
 <b>Solar</b>	0.1 GW	+ 5.3 GW	5.4 GW

The expected transition will be supported by:

- 1 Expected new **offshore wind regulations**
- 2 Continuation of **support mechanisms for PV** installations
- 3 **Liberalization** of the unfavourable so-called **Distance Act** regulations
- 4 **Effect of the Green Deal** in the European Union regulations on reduction of CO<sub>2</sub> emissions
- 5 **Declining LCOE** of green energy generation and new technologies reducing intermittency

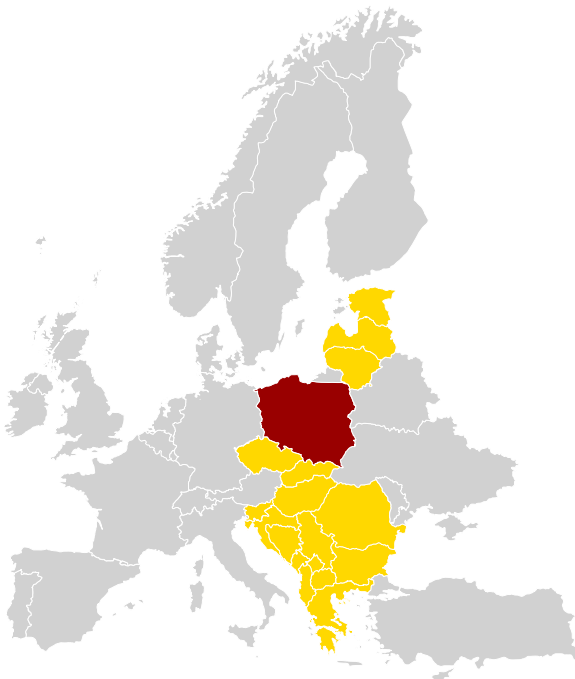


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# Market environment: Foreign markets

**We plan to expand into Central European markets, subject to availability of investment opportunities and investable funds**

We believe investing in **Central Europe** allows to achieve **suitable returns** at a **moderate risk profile**



We believe that challenges of energy markets in Central Europe can be addressed by further investments in onshore wind and photovoltaics

1

The majority of Central European markets is in a **similar situation to Poland** (high share of conventional generation units resulting in high CO<sub>2</sub> emissions)

2

The vast majority of countries must **adhere to the stringent EU standards**

3

Presence of large utilities and international investment funds in the region is limited, translating to **lower competition**



We believe that the Central European markets will create investment opportunities in the upcoming years and we will search for such new investments, provided additional financing is secured.



Similarity of selected Central European markets to Polish energy market should allow for monetization on our market competences and technical experience

# Agenda



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**2 Mission and vision**

**3 Polenergia today**

**4 Directions of strategic development**

**5 Summary**





## 2 Mission and vision: Our mission

**We will strengthen our position as the leader of the Polish energy market transition**



Polenergia is the **largest Polish**, independent and vertically integrated **energy group**.



We are at the beginning of tremendous transformation of the Polish energy sector. **Our ambition is to drive Poland in the energy mix transition towards clean and renewable energy sources.**



To achieve this goal, **we use modern and effective technologies** as well as knowledge and expertise of both **seasoned management and operational personnel**.



Our Group has been **the leader and pioneer of this transition since 1997**, with the first gas-fired CHP commenced in 1999 and the first wind farm commenced in 2007.\*



We have come out of recent disruptions on RES market strengthened, with **restructured organization and optimized cost structure**, prepared for future growth.



**Now we are stronger than ever before and are ready to shape the future of the energy market!**



## 2

# Mission and vision: Our values

Our drive is fuelled not only by economics, but also by responsibility for current and future generations

**PASSION**



**Committed** in heart and mind

**OUTPERFORMANCE**



Always **raising the bar**

**LEADERSHIP**



**Setting new standards** for us and our stakeholders

**STRIVING FOR PERFECTION**



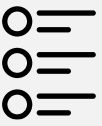
Ensuring the **highest quality** of our activities

**ACCOUNTABILITY**



Accountable for **delivering on our commitments**

# Agenda



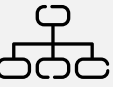
**1 Market environment**

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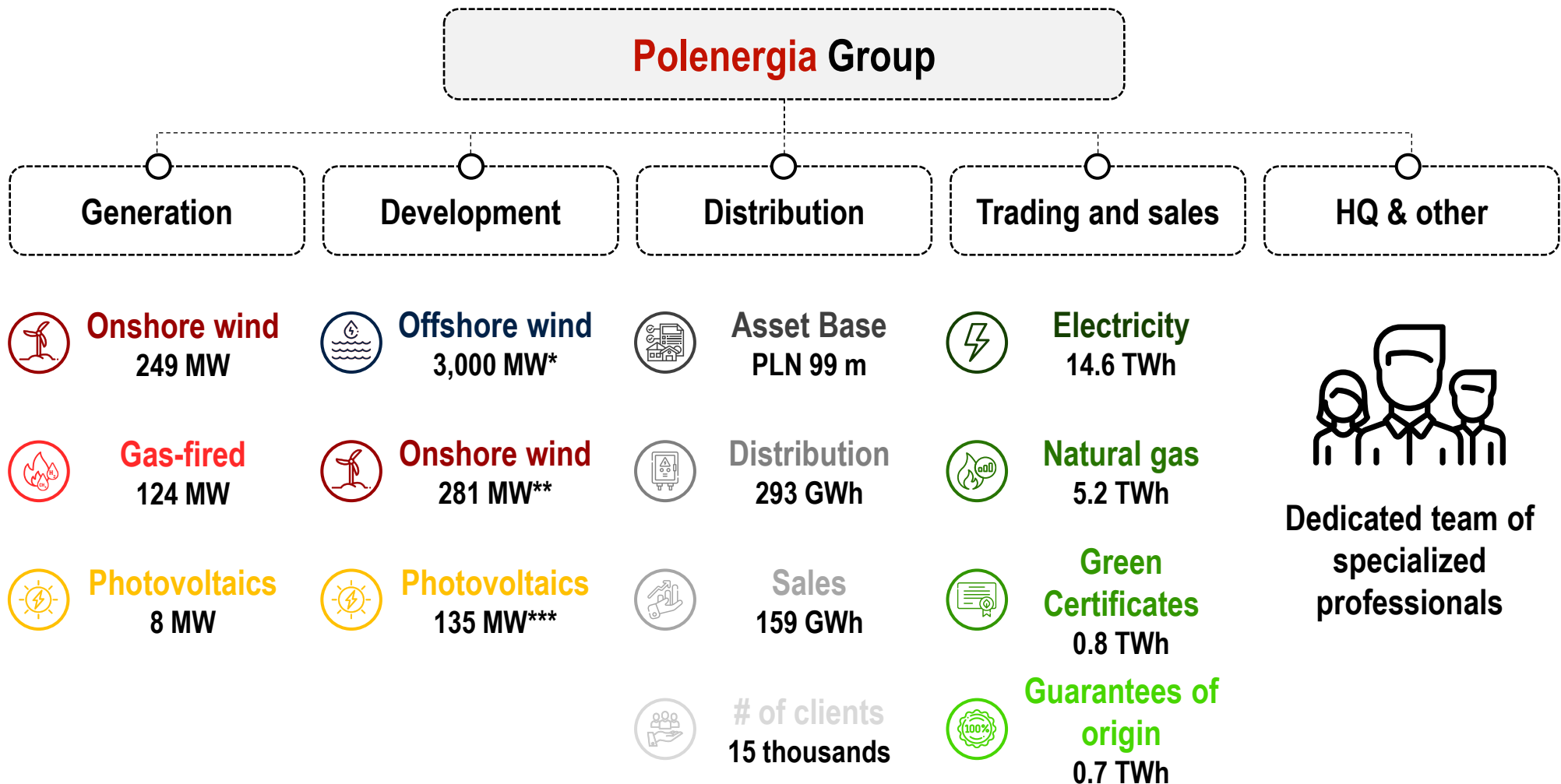
**4 Directions of strategic development**

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# 3 Polenergia today: Business segments

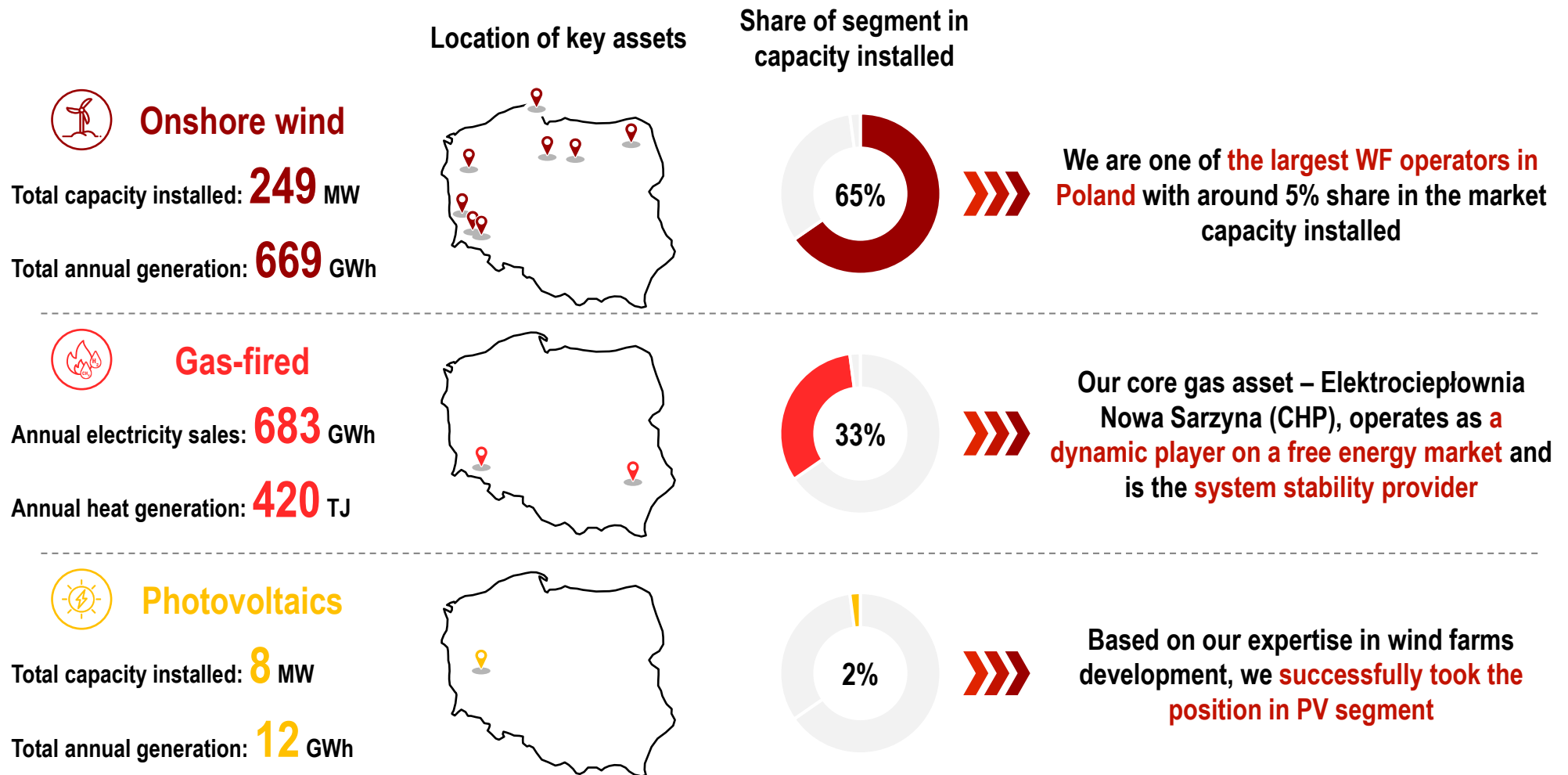
We are the largest Polish independent energy group, operating as a vertically integrated electricity generator and distributor





# 3 Polenergia today: Generation

We are proud of our zero emission generation assets in onshore wind and PV segment, balanced by efficient and low emission gas-fired CHP





# 3 Polenergia today: Development

**We ensure further growth of Polenergia Group based on the development of new projects**

## Location of key assets



### Offshore wind

Advanced dev. stage: **1,440** MW\*

Early dev. stage: **1,560** MW\*



**Polenergia is the pioneer and the leader in the Polish offshore segment development, with the first projects entering the construction phase in 2022/2023**



### Onshore wind

Auction awarded portfolio: **186** MW

Advanced dev. stage: **95** MW\*\*



**Despite the restrictions imposed in the so-called Distance Act, Polenergia plans to actively start development of new projects, with expected total capacity of 300 - 600 MW**



### Photovoltaics

Pre-auction portfolio: **27** MW

Early-development stage: **108** MW



**Polenergia is securing its position in PV segment in order to supplement onshore wind's production profile and to benefit from state-guaranteed support system**



3

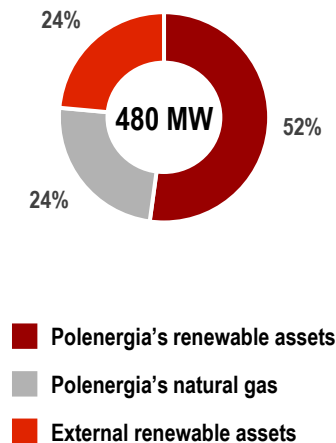
## Polenergia today: Trading and sales

**Polenergia Obrót services not only operating companies in the Group but also generates margin on market access and market integration services**

Although mainly focused on the Polish market, Polenergia Obrót is currently present in **4 countries in Central and Western Europe**



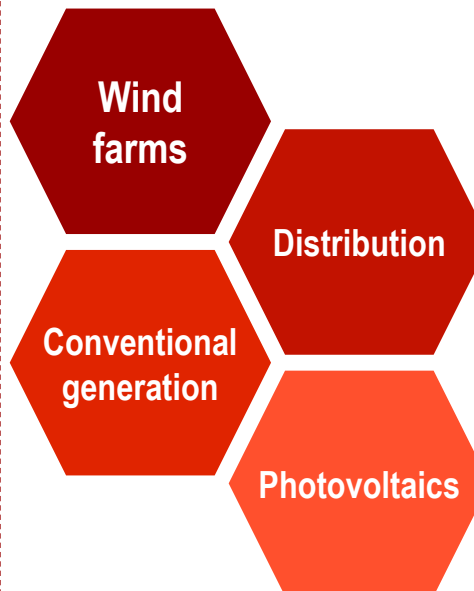
Polenergia Obrót has currently **480 MW of capacity under management**



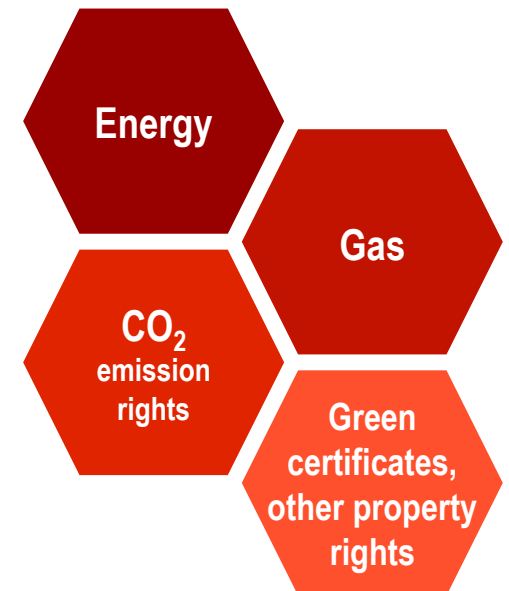
**Polenergia Obrót generates margins on two main business segments:**

(1) value chain integration of Polenergia Group's generation and distribution assets (2) structured transactions and cross-border trading within the region

**Group's value chain integration**



**Structured transactions Cross-border trading**





# 3 Polenergia today: Distribution

**Polenergia Dystrybucja operates in regulated distribution segment, ensuring high predictability and security of margins, and in commercial sales segment**

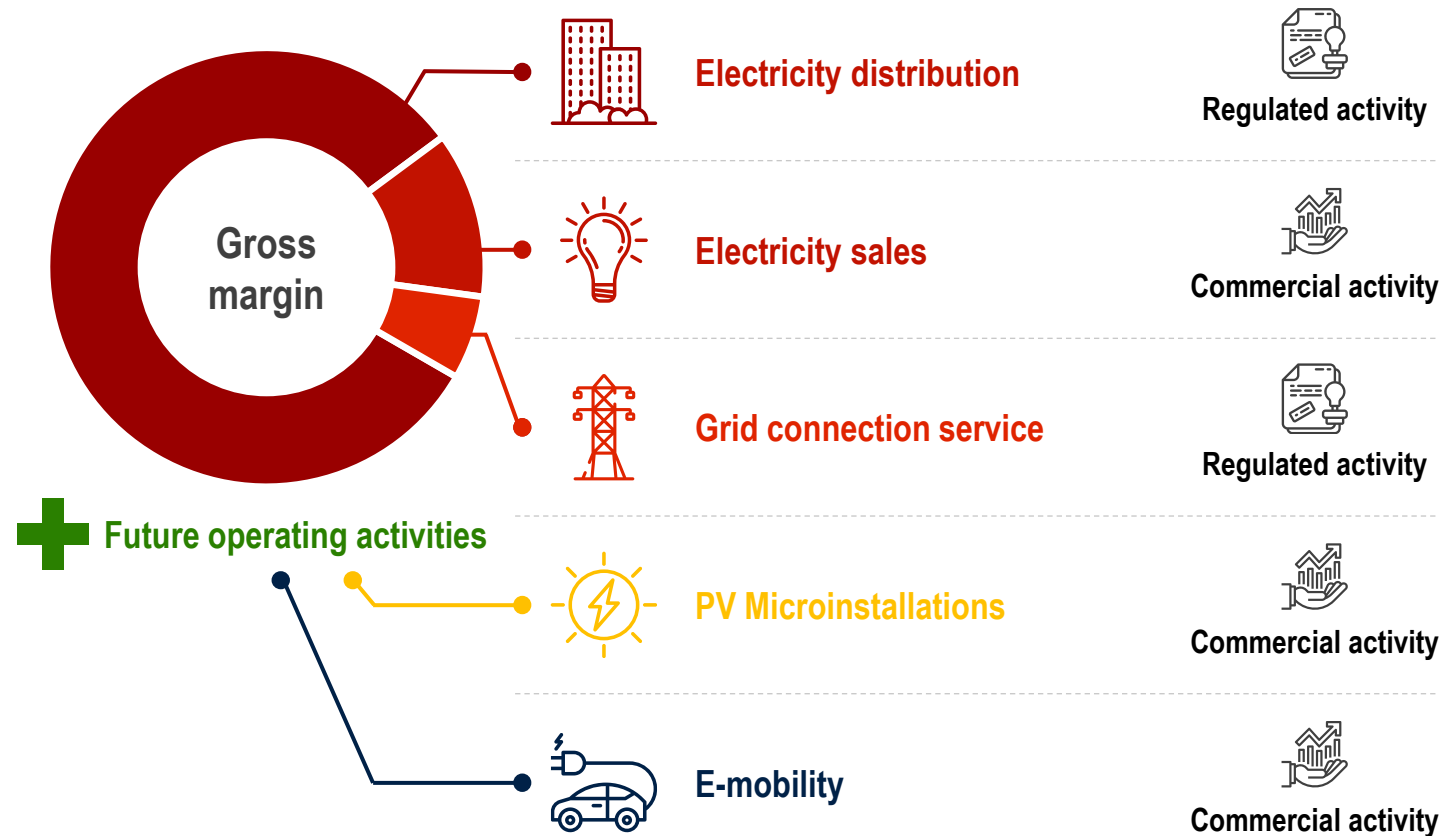
Assets of Polenergia Dystrybucja are spread across the largest cities in Poland



 Distribution projects in operation

 Distribution projects in development

The majority of 2019 gross margin of Polenergia Dystrybucja was generated from regulated segment, ensuring low risk profile of the company





# Agenda



**1 Market environment**

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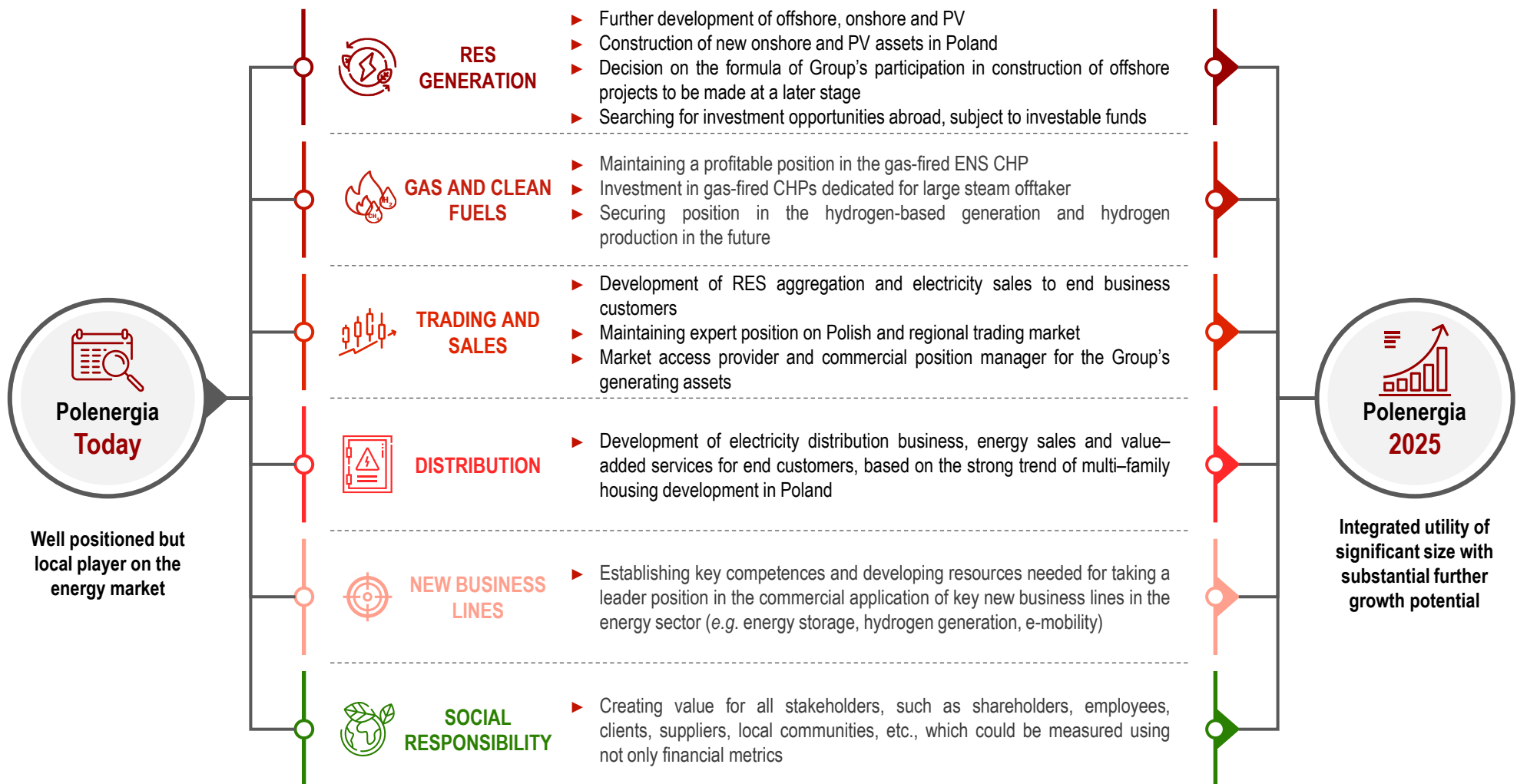
**4 Directions of strategic development**

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# 4 Directions: Summary

**Our ambition is to build integrated utility of significant size with substantial further growth potential and to leave positive footprint for future generations**








# 4

## Directions: RES generation

**RES generation will remain our core activity, with increasing scale of operations in onshore wind, PV and further development of offshore projects**

 <b>Onshore wind</b>	<b>Construction of auction portfolio</b>  <b>+186</b> MW of operating capacity	<b>Construction of other development projects</b>  <b>+48</b> MW of operating capacity	<b>Start of new development in Poland</b>  <b>+300</b> MW of development capacity	<ul style="list-style-type: none"><li>▶ Onshore wind is the most competitive RES technology, with the lowest LCOE</li><li>▶ Our development team is one of the most experienced in Poland</li><li>▶ We strongly believe this technology will maintain its leading position in Polish energy market transformation</li></ul>
 <b>PV</b>	<b>Construction of RTB portfolio</b>  <b>+27</b> MW of operating capacity	<b>Construction of other development projects</b>  <b>+54</b> MW of operating capacity	<b>Further new development in Poland</b>  <b>+190</b> MW of development capacity	<ul style="list-style-type: none"><li>▶ We believe PV capacity acts as a natural supplement to onshore wind generation, due to i.e. complementary production profile</li><li>▶ We plan to construct our portfolio of developed projects based on auction support system and develop future growth capacities</li></ul>
 <b>Offshore wind</b>	<b>Finalization of development until RTB stage of MFW Bałtyk II and III</b>  <b>720</b> MW of development capacity at RTB stage		<b>Further development of MFW Bałtyk I</b>  <b>780</b> MW of development capacity	<ul style="list-style-type: none"><li>▶ Offshore wind is the future of Polish energy system and will allow for decarbonization and market transformation from fossil fuels to renewable energy</li><li>▶ We plan to further develop all of our offshore wind projects.*</li></ul>

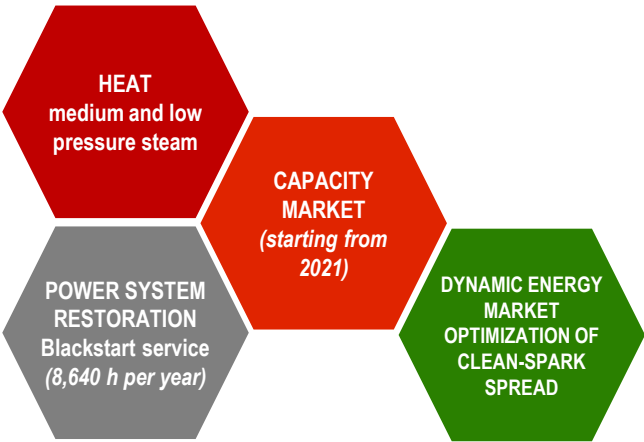
# Directions: Gas and clean fuels

We aim to develop further our position in generation from natural gas as a way of securing potential for hydrogen-based generation

We plan to focus our **gas and clean fuels strategy** on 3 areas:

## 1 Optimization of ENS CHP

ENS as a dynamic player on a free energy market and system stability provider



## 2 Investments in new CHPs

New hydrogen-ready CHP facilities for steam offtakers to be constructed and operated with technical and industrial partners

Strategic target:

**33%** stake in **400** MW portfolio

- Establishment of **new investment platform with technical and industrial partners**, in order to invest in new, natural-gas fired, highly efficient CHPs, **ready to switch to hydrogen in the future**
- Optimized steam generation costs**, high reliability and availability, with the **lowest emissions level and environmental impact**
- Generation flexibility with **possibility of selling excess electricity** on the energy market or in the PPA formula
- Optimized **project financing** formula

## 3 Path to hydrogen

Extension of current value chain by hydrogen production and hydrogen-based electricity generation

**Short-term target**



**Preparing the Group for the upcoming process of using hydrogen on a large scale**

- ▶ Investing in gas-fuelled generation, where gas acts as a transition fuel to zero-emission, hydrogen technologies
- ▶ Pilot project of testing production and combustion of hydrogen in ENS CHP
- ▶ Other pilot projects in connection with Polenergia's current renewable assets' base

**Long-term target**



**Becoming one of the most significant producers of green hydrogen and playing a vital role in energy sector decarbonisation**

- ▶ Production of green hydrogen on a large scale in the electrolysis process from own renewable sources
- ▶ Switching existing and future natural gas fired CHP to clean zero emission hydrogen path



# 4

## Directions: Trading and sales

**We plan to base our trading and sales strategy on three areas: (1) origination, (2) sales and (3) trading, supported by establishment of analytical centre**

We plan to **develop our activities in the 3 major business lines supported by new analytical centre** (centralised energy market analysis competences, market risk management, post implementation controlling)

This strategy allows us to **enter new geographical and business segments within the horizon of the strategy**

### 1 Origination

- ▶ RES aggregation
- ▶ Flexibility services on demand and supply side
- ▶ Optimization of intermittent and flexible energy sources



Share in RES  
aggregation market  
in Poland

**20%**

New business  
segments

**# 2**

### 2 Sales to the end customers

- ▶ Sale of electricity and other energy market products
- ▶ Implementation of modern dedicated sales channels
- ▶ Sales of pure renewable energy

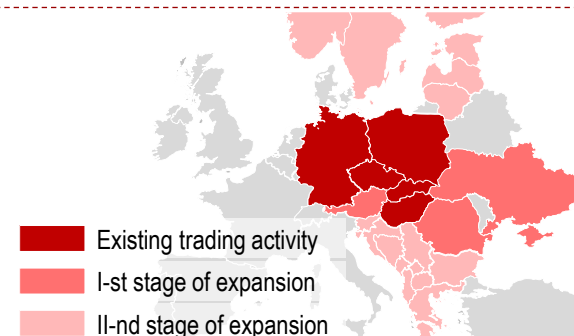


New business  
segments

**# 3**

### 3 Further growth in trading

- ▶ Geographical expansion on the new markets
- ▶ Further growth in the proprietary trading segment
- ▶ Use of modern technologies in trading (e.g. algorithmic trading)
- ▶ Presence in new categories of commodities and energy market products

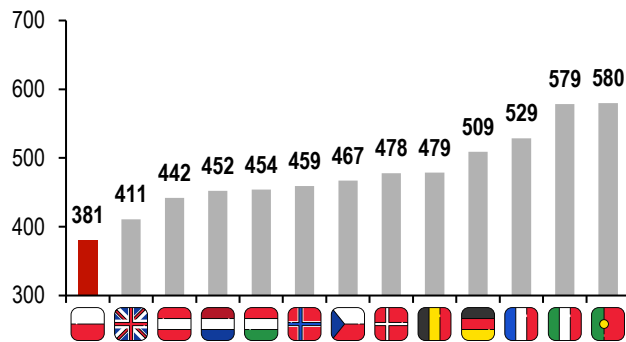




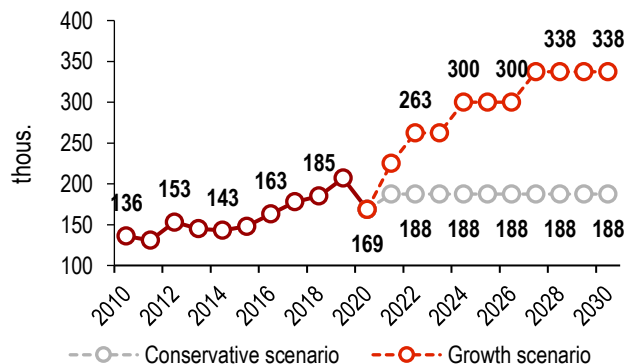
# 4 Directions: Distribution

**We will continue organic growth of the distribution segment benefiting from double return strategy and utilizing options for growth in new activities**

As number of flats in Poland per 1'000 citizens is significantly lower than the European average...



...we expect number of newbuild flats will keep growing\* in the coming years...



...we plan to invest further in the **regulated area**...



1

Growth of regulatory asset base and customer data base connected to the Company's own grid (plan to grow in line with residential building market)

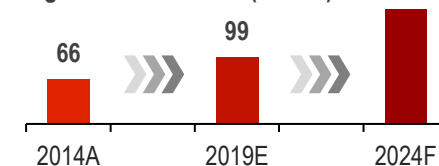


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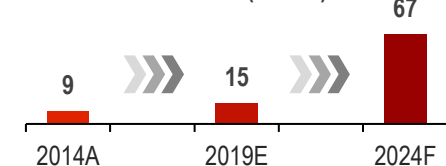
Growth of the volume and margin on electricity sales to end customers connected to the Polenergia Dystrybucja own grid and beyond it (based on increasing customer database from new residential buildings connected through our network)



Regulated Asset Base (PLN m)



Number of customers (thous.)



...and supplement core business activities with **options of new business lines**.



Cross-selling for new and existing clients



PV solutions for prosumers and bigger commercial customers



E-mobility infrastructure, such as chargers installed in new residential buildings

Implementation of this strategy will create opportunities to **launch additional and innovative products addressed to 75 k customers** connected to the own grid of Polenergia Dystrybucja, customers from outside the grid and within Polenergia Group.



# 4 Directions: Social responsibility

**We recognize our responsibility to protect the environment and develop a sustainable society, to secure the wellbeing of current and future generations**

Together with **our shareholders and key stakeholders**, we recognize that our financial development must be achieved **in line with a stringent social, environmental and ethical guidelines**.

The renewable energy sector provides both plentiful **business opportunities** as well as means for **securing a sustainable economy for future generations**.



# Agenda

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- 1 Market environment**
- 2 Mission and vision**
- 3 Polenergia today**
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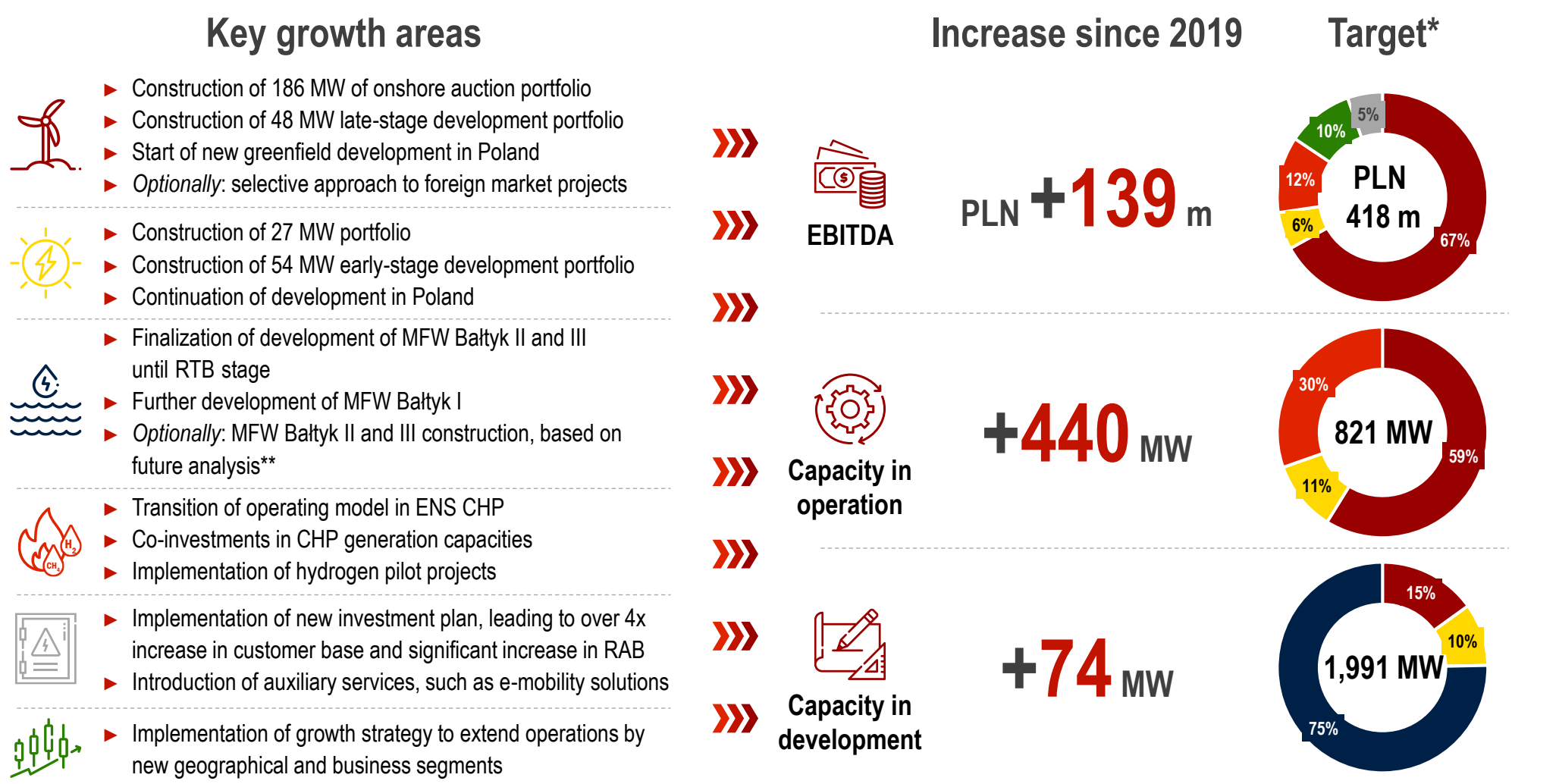
## **5 Summary**





# 5 Summary: Strategic targets

We have defined key strategic growth targets and areas, that could be further extended, provided that we secure additional external financing











## 5

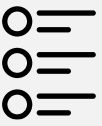
# Summary: Financing until 2024

**Future growth opportunities will require external financing, depending on further decisions regarding offshore projects and expansion into CE markets**

Debt		Other financing secured	Further financing required	Group level	
	<b>186 MW RTB:</b>	38 MW: agreement signed 156 MW: negotiations in progress	Shareholder loan* up to PLN 233 m and Group's own funds	--	<p>Assuming all profits are reinvested, external financing required for strategy implementation after 2020 and until 2024:</p> <p>up to PLN <b>0.5</b> bn**</p> <p>Optional: Financing of construction phase of offshore MFW Bałtyk II and III projects, assuming financing through debt and equity*** (to be decided at the later stage):</p> <p>up to PLN <b>2.6</b> bn</p> <p>Optional: External financing for new RES projects in the CE markets</p> <p>Depending on the amount of financing required, market conditions and other factors, the Company would require significant external financing from existing or new investors, which could be obtained through various financial options, such as bonds, shares or hybrid instruments' offerings.</p>
	<b>Other projects:</b>	New project finance debt to be secured	--	✓	
		New project finance debt to be secured	--	✓	
		--	--	✓***	
		New debt financing to be secured	--	✓	
		Debt facility on segment level	Group's own funds	--	
		Credit facility and bank guarantee line on segment level	Group's own funds	--	

# Agenda

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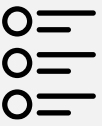
## Glossary

## Explanation of terms and abbreviations used

<b>CCGT</b>	Combined Cycle Gas Turbine
<b>CE</b>	Central Europe, Central European
<b>CHP</b>	Combined Heat and Power
<b>EBITDA</b>	Earnings Before Interest, Taxes, Depreciation and Amortization, calculated as profit before tax less financial revenue plus financial expense plus depreciation and amortization plus impairment losses of non-financial fixed assets (including goodwill), including pro-rata share of EBITDA from non-controlled entities
<b>ENS</b>	Elektrociepłownia Nowa Sarzyna (Nowa Sarzyna Combined Heat and Power generation unit)
<b>HQ</b>	Headquarters
<b>LCOE</b>	Levelized Cost of Electricity
<b>MFW</b>	Offshore Wind Farm (Morska Farma Wiatrowa)
<b>MtCO<sub>2</sub></b>	Million metric tons of carbon dioxide
<b>MW</b>	Megawatt
<b>MWh, GWh, TWh</b>	Megawatt hour, gigawatt hour, terawatt hour
<b>PPA</b>	Power Purchase Agreement
<b>PV</b>	Photovoltaics
<b>RAB</b>	Regulated Asset Base
<b>RES</b>	Renewable Energy Sources
<b>RTB</b>	Ready To Build, building permit obtained or in progress
<b>TJ</b>	Terajoule

# Agenda

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# Disclaimer



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